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ABSTRACT

Although many Canadians feel that responsibility for occupational training rests within the educational system, this is not the case. Recent analysis indicates that almost 70 percent of job-related courses are given on-site as compared to 30 percent at educational institutions. Because the private sector in Canada makes very substantial investments in training, it is vitally important that government policy be complementary to private sector activities. Improved communication among schools, students, and employers will not, in itself, resolve issues of training; the various participants must resolve their substantially different expectations and goals if they are to achieve truly effective integration. Government training programs have, at times, been characterized by uncertain and sometimes contradictory objectives; have had particular difficulties in targeting the clients and skills that they need to address; and have, for a variety of reasons, been unable to make a quick response to changing labor market conditions and needs. Despite its promise, the apprenticeship system in Canada is simply not delivering what it does in some other countries; therefore, it should either be reformed on a major scale or policymakers should cease to regard it as a major training vehicle and should provide alternative routes to skilled trades certification. A summary of the findings and policy implications is provided in both English and French. (MN)

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Post-School
Vocational Training:
Literature Review

#83-12

POLICY IMPLICATIONS/SUMMARY

1. The private sector makes very substantial investments in training. It is vitally important, therefore, that government policy be complementary to private sector activities. A number of specific aspects of this general approach may be cited:

   a) Private sector training is subject to major fluctuations depending on the state of the economy. It may be desirable or necessary for government to expand and contract elements of its own training programs to cushion these fluctuations.

   b) Private sector training seems to be disproportionately directed at individuals who are already advantaged in labour force terms. Government training should therefore have a major emphasis on those who are not currently well-equipped or highly motivated to puruse private training. Such a principle could suggest modifications in the kinds of programs government offers, the clients recruited for them, and the outcomes expected.

   c) Private sector training is often narrowly job-focused. A broader, human resources approach to training will remain largely the responsibility of the public sector. Programs which are not addressed to relatively specific skill sets would therefore seem appropriate for government sponsorship.

   d) There may be significant potential for expansion of private sector training through various kinds of government assistance and incentives. Since such expansion would link training to actual employment, an incentives strategy would seem to be desirable, at least in some areas.

2. While there is room for improved communication among schools, students, and employers, such communication by itself will not resolve issues of training; the various participants have expectations and goals which are sufficiently different to prevent truly effective integration.

3. Government training programs have been characterized at times by uncertain - and sometimes contradictory - objectives. This has made the definition of desired clients and outcomes difficult. For example, where the focus of training is on disadvantaged clients, it is unreasonable to use labour market performance of the population as a whole as a comparative standard. There is a clear need for precise specification of the objectives of some government training programs.

4. The evidence is clear, moreover, that providing effective training, especially to those typically excluded from such training, is a very difficult task. The implication is that government programs need to be targeted very carefully, both in terms of the clients and the types of skills being addressed.

5. Quick response to changing labour market needs is a difficulty for government programs for several reasons. First, there does not exist a reliable and accurate long term labour market projection system (although COPS may meet some of this concern). Where needs cannot be projected reliably, appropriate training, of course, cannot be undertaken. Secondly, the institutional rigidities of government, like those of any large organization, mean that approval and implementation of programs is slow or, alternatively, that programs are hastily conceived and not well thought out before being put in place.

6. The apprenticeship system, despite its promise, is simply not delivering what it does in some other countries. There is a need either to reform apprenticeship on a major scale, or, if this is held to be impractical, to cease to regard it as a major training vehicle and provide alternative routes to skilled trades certification.

MISE EN OEUVRE DE LA POLITIQUE - RÉSUMÉ

1. La contribution du secteur privé dans le domaine de la formation professionnelle est très importante. Il faut donc que la politique du gouvernement complète celle du secteur privé dans ce domaine. Voici quelques éléments bien précis dont on devrait tenir compte dans l'élaboration de cette politique :

   a) La formation professionnelle dans le secteur privé est à la merci des fluctuations économiques. Il serait donc bon, voire nécessaire, que le gouvernment étende et utilise certains composants de ses propres programmes de formation professionnelle pour minimiser les effets de ces changements.

   b) La formation professionnelle donnée dans le secteur privé semble destinée la plupart du temps à ceux qui sont déjà avantagés sur le plan travail. La formation offerte par le gouvernement devrait donc s'adresser surtout à la clientèle démunie ou peu motivée qui ne peut pas suivre la formation professionnelle du secteur privé. Cela entraînerait un grand changement dans les types de programmes offerts par le gouvernment, dans la clientèle visée et les résultats obtenus.

   c) La formation professionnelle donnée dans le secteur privé ne se limite souvent qu'à l'acquisition d'une profession comme telle. Une attitude plus ouverte à l'égard des ressources humaines et de leur formation demeure essentiellement du ressort du secteur public. Le gouvernement devrait donc patronner des programmes qui ne se limitent pas qu'à offrir une formation professionnelle dans un domaine bien précis et limité.

   d) Il serait possible avec l'aide et l'encouragement du gouvernement d'apporter une nouvelle dimension à la formation professionnelle du secteur privé. Étant donné que l'on parle en fait d'emploi, on préconise l'établissement d'une politique d'encouragement, du moins dans certains domaines.

2. Il est certain que l'on peut toujours améliorer les contacts entre écoles, élèves et employeurs, mais ce n'est pas la solution à toute la question de la formation professionnelle. Les diverses parties concernées ont des attentes et des buts trop différents pour permettre une intégration vraiment efficace.

3. On a parfois qualifié les programmes de formation professionnelle du gouvernement de flous et même de contradictoires dans leurs objectifs, et il est devenu difficile de déterminer la clientèle visée et de prévoir les résultats. C'est le cas par exemple lorsque la clientèle visée est une clientèle désavantagée, il est alors ridicule de comparer les résultats obtenus avec ceux de toute la population active. Il est essentiel de préciser la nature des objectifs à atteindre dans certains programmes de formation professionnelle du gouvernement.

4. Il est évident qu'offrir une formation professionnelle efficace, surtout à une clientèle habituellement exclue de ce genre de programme, est une entreprise ardue. En ce qui concerne les programmes du gouvernement, cela signifie que l'on doit, au départ, particulièrement bien déterminer la clientèle et les compétences visées.

5. Il est très difficile de répondre rapidement à l'évolution constante du marché du travail, et cela pour diverses raisons. D'abord nous ne connaissons pas de système qui donne une projection à long terme du marché du travail (bien que le SPPC fournisse certains renseignements précieux). Il est évident que lorsque l'on n'est pas certain des besoins, on ne peut offrir une formation adéquate. D'autre part, la rigidité du système gouvernemental, comme celui de toute organisation importante d'ailleurs, retarde l'autorisation et la mise en place des programmes qui parfois sont élaborés à la hâte et mal conçus au départ.

6. Le système d'apprentissage, malgré ses espoirs, n'est pas aussi efficace que dans d'autres pays. Soit que nous réformons l'apprentissage dans son ensemble, soit, si cela s'avère trop difficile, qu'il cesse d'être un des principaux moyens de formation et que l'on propose d'autre moyens de former des ouvriers spécialisés.

INTRODUCTION

An increasing amount of attention is being directed towards vocational or occupational, training. While there seems to be some question of the efficiency of training in schools, the larger issue concerns training outside of the secondary school system.

Although many Canadians feel that responsibility for occupational training rests within the educational system, this is not the case. The lion's share of training takes place outside of schools. Recent analysis indicates that almost 70 percent of job-related courses are given on-site, as compared to 30 percent at educational institutions.

This paper will briefly describe and examine, and whenever possible, analyze the evidence for training undertaken within the private sector, training for which the government assumes responsibility, and training mechanisms in which both the private sector and government share responsibility. Some other considerations or concerns that are pertinent to a discussion of vocational training will be also be outlined. It should be noted that post-secondary institutional training, (eg. community colleges and universities), will not be discussed.

It is also important to note that, for the most part, the training models discussed are aimed at different clientele or target groups, have different aims, and operate under different sets of constraints. Therefore, measures of effectiveness are also different.

PRIVATE SECTOR TRAINING

Not surprisingly, most employer sponsored training stems from business needs, with, in most cases, employee aspirations being incidental. Private sector training can be viewed as a firm's investment in human resources. Therefore, it must be cost-effective for a firm to consider the investment, or other means of obtaining skilled manpower will be utilized.

What is actually going on in private sector training? Unfortunately, the nature, level, composition and, most importantly, the costs of training in the private sector are not well documented or clearly understood. Yet, some findings are available from the research literature.

As mentioned above, the nature of workplace training is to develop skills to meet employers' skill needs. This has been labelled "essential" training, and it typically occurs on-the-job. In other words, the employee learns the necessary skills in the work environment. A U.S. Conference Board study, completed in the mid-1970's, surveyed over 600 companies which had more than 500 employees. More than half offered courses to their employees. Slightly more than half of the companies offered management/supervisory courses, with slightly fewer offering courses in functional/technical skill areas as well. The largest number of employees took the latter courses. It was also found that the initial training of new employees is generally provided on-the-job. In addition, the results showed that many companies which provided initial training courses for new employees were shortening or deferring these courses; instead, greater reliance was being placed upon exposure to realistic work problems. Although these results did not explain why this shift was occuring, the implication is that on-the-job training is seen as more cost-effective.

Most employers recognize that essential training is the responsibility of the workplace. The central role of on-the-job training is supported by surveys showing it is the most important and most frequently used method by which workers learn to do their jobs. The U.S. Bureau of Labour Statistics, again in the mid-1970's, found

that in the metal-working industries specifically, the majority of training takes place on-the-job rather than off the production site. The Conference Board study, already mentioned, also found that only a relatively small portion of employee education and training is assigned to resources outside of the firm.

Data collected in a more recent study showed that, in the U.S., men make up 63 percent of in-house trainees, although they are 57 percent of all employees. Also, the more education and training a worker has, the more education and training that individual is likely to get. These findings raise issues of equity; training opportunities do not appear to be equally accessible to women and other less advantaged sectors of the workforce.

Among the factors that affect employer-provided training are company size, and the company's position within the industry. Technology and related skill needs, as well as the business cycle are also important factors. As already mentioned, larger companies, particularly those that are industry-leaders or monopolies, tend to develop and maintain a high degree of employee training. This is especially true where new technology is concerned. For example, companies such as Xerox, IBM, and the telephone companies cannot depend upon outside resources to meet their skill needs. While smaller companies may rely upon "manpower poaching", that is, luring skilled employees away from another company, this strategy may not be reliable or cost-effective in the long run. While the common opinion is that many companies avoid investing in employee training for fear of losing their investment to a competitor, empirical evidence shows that this fear is not well grounded. An analysis of the probability of trainee retention showed that it is much higher in companies that invest heavily in training and that have a full-time training co-ordinator.

Advocates of private-sector training claim that business recognizes and meets its own needs for a skilled workforce more quickly and efficiently than institutions can. This seems especially important in the face of new and changing technology.

One type of training that has developed directly in response to technological change has been labelled "supplier-provided" training. For example, the manufacturer of a new piece of equipment, such as a word processor, will also provide employee training in the use of the equipment to its purchaser. Provision of this type of co-operative training has evolved because of a lack of alternate resources for training. In addition, increasing numbers of manufacturers are recognizing client-training as an effective marketing tool. Other forms of co-operation, (eg. training agreements between large and small companies), have also evolved.

The business cycle seems to be a significant predictor of the role and the extent of training provided by employers. It appears that, during an economic downturn, dollars allocated to training and development are among the first to be cut back. This may be true of what is called "beneficial" training, or training that is initially more beneficial to the worker than to the employer, such as supervisory skill training. There is no evidence that shows it is also true of "essential" training. The latter would not be consistent with the interests of cost-effectiveness. However, in a general sense, it does seem logical to suggest that when companies are not purchasing new equipment or hiring new employees, less workplace training will occur.

Since a great deal of what a worker will learn about the job occurs on the job, the next research question is: how well prepared are new workers to learn the job? There does not appear to be any Canadian evidence on this issue. However, in the U.S., a Conference Board study showed that industry executives' complaints were <u>not</u> with specific technical skills or professional knowledge. Rather, the lack of general work competencies posed problems. The majority of companies surveyed in a study entitled "Basic Skills in U.S. Work Force" reported that the majority of of companies surveyed identified basic skill deficiency problems. It was identified that these deficiencies limit the job advancement of employees. It was concluded that the importance of basic skills (academic as opposed to vocational) were underestimated by school systems. Language skills were pinpointed as a major area of deficiency; mathematical or computational skills followed.

The research evidence based upon surveys, indicates that employers do not want a person who knows how to operate a specific machine or process, which may become obsolete within several years. Rather, industry seems to want a ready-to-learn, broadly educated person with a thorough command of basic communication and computational skills. However, there is no documented evidence that what employers say they want is the type of person they will hire. Survey results of what constitutes an ideal may not always correspond to what is the most cost-effective in practice.

If general work competencies are translated as motivation, willingness to learn and good work habits, it has been argued that providing students with exposure to the workplace should improve these competencies. A variety of attempts have been made to bring secondary students into industry for this reason. While, in some instances, projects have been successful, it has been demonstrated that attempts to improve linkages between schools and employers are generally not successful in achieving their aim. A survey of schools and employers indicated that school-industry linkages do not have a significant impact on decisions affecting employment in either institution. Less than a third of the firms responding to the survey claimed to have placed students in jobs as a result of school-work communication. In addition, the evidence suggests that the jobs would have been filled by youths anyway.

GOVERNMENT-SPONSORED TRAINING

Background

Government-sponsored training programs have been undertaken in most Western countries, yet their objectives and methods have varied. The following discussion is not a comprehensive listing of these programs, but an overview of some of the successes and failures as identified by the research literature.

While in some instances, the unemployed and the disadvantaged can be described as the same population sector, it should be noted that this is not always the case. Recent government programs for the un- and under-employed are directed towards people with education and/or skills who are still unable to find employment.

Some training programs have been aimed towards the un- and under-employed sector of the population. Programs undertaken in Britain and Canada generally have been of this type. Secondly, as in the United States, a great deal of government funding has been directed towards training the disadvantaged sectors of the population.

On a broader scale, government programs in Canada have resulted from the perception that available training has been inadequate in both a quantitative and qualitative sense. These programs have typically been geared towards several sectors of the population, including the unemployed and the disadvantaged.

Until comparatively recently, training in Britain, the U.S. and Canada has been the responsibility of industry. The objectives of government involvement in vocational training seem to have been adapted to current national concerns, such as the American funding of training programs as part of the War on Poverty. Given that government sponsored training has existed on a substantial scale only since the 1960's, this concurrent focus on both social and economic is noteworthy. Unfortunately, the general effectiveness of these programs is not always clear. Considering the vast amounts of government dollars involved, there have been surprisingly few cost-benefit analyses of these programs. Programs directed towards the disadvantaged have been

especially immune from attempts to determine their cost-effectiveness. Overall, studies of government-sponsored programs are largely descriptive; the few studies that attempt to look at programs critically are often plagued with methodological difficulties. Terms of reference are not clear and measures of effectiveness are rarely well defined. In many instances, this seems due to the "nature of the beast" being studied. Many of these government programs are dictated by social policy and, in effect, provide an alternative form of employment. The "hidden objective" of many programs is to provide subsidized government jobs. This is contradictory to the more generally publicized goal of programs for economic reasons, such as to provide skilled labour in specific shortage situations.

The Un- and Under-Employed

The British experience with training and re-training has provided some noteworthy conclusions and considerations. Again, the following are based upon relatively few studies which deal with only certain aspects of government-sponsored training.

An economic analysis showed that there was strong evidence of the positive net benefit of retraining, when rates of return and payback periods were calculated for the training investment. From the participant's point of view, there were positive profits form the training investment within two years or less. A complex series of calculations involving replacement and displacement factors showed training as a profitable investment in social cost-benefit terms.

The same series of cost-effectiveness studies found that retraining to the skilled craftsman level provides no protection against redundancy, but does appear to improve redeployment levels when the employment situation improves. It was concluded that the general economic climate markedly affects cost-effectinvess of government training. In a higher unemployment situation, the effect of a retraining person displacing a currently employed worker is much more likely to occur, than is the desired effect of creating opportunities for others.

In addition to the general employment situation being a significant factor, regional labour market imbalances were also shown to be an important consideration in the viability of government training programs. To illustrate, a case study of a training project located in a region of high unemployment found there was some limited success in meeting local labour market needs. All the trainees were male, most were under 30 and almost half were previously unskilled workers. Despite the high unemployment situation, the majority of trainees improved their labour market position, ie. almost 80% found jobs within a month. It was noted that an important contribution was made in filling skill shortages, particularly in small, expanding firms. However, the need for devoting more resources to post-training placement, advisory and follow-up services was also highlighted.

If the goal of training is to provide a suitably skilled labour force to meet industry demands, another problem arises. The British experience showed large discrepancies between job placement results of different trades. The most popular courses amongst applicants did not necessarily have high placement rates. The results point to the imperfect nature of forecasting job prospects on the basis of employment prospects at a specific point in time. The volatile nature of the labour market has raised serious questions about the government's ability to predict future job opportunities. Other difficulties include the fallibility of human choice and judgement, which suggest that career counselling and information services may be of some benefit.

In the United States, the Manpower Development and Training Act (MDTA) authorized promotion and funding of job training programs for the un- and under-employed. About one-third of the training efforts were directed towards training skills that were in short supply. Studies indicate that although people enrolled in these programs appear to get somewhat better jobs than comparable people not enrolled, their benefits were short-lived. Further, these benefits appear to be at the expense of workers not included in the programs. This displacement effect means that training does not lower the overall unemployment level because new jobs are not being created for the newly trained workers.

Surveys recently undertaken by the Conference Board of Canada confirm another type of displacement effect. In addition to workers, training programs are displaced. The Adult Occupational Training Act (AOTA) has concentrated upon purchasing training services for program enrollees; this was a shift from the previous shared-cost funding approach. The emphasis has been upon short-term training. These public initiatives appear to have displaced private efforts. While survey results indicated that employers are willing to undertake training that lasts for brief periods, they are far less willing to commit themselves to long-term training programs. This suggests that, to be effective, government efforts should be complementary to short-term industry training and concentrate upon supporting long-term training.

Evaluations of government-sponsored training programs in Canada have yielded favourable cost-benefit ratios, but serious questions have been raised about the way these evaluations were conducted. The drop-out rate for trainees is very low, but there does not appear to be any documentation of job placement rates. One study specifically addressed the question of the most appropriate training method. It was concluded from the study that greater emphasis should be placed upon on-the-job instead of institutional training, as trainees at on-the-job sites were more likely to obtain employment. This implies a drastic change; in 1981-82, institutional training expenditures took up almost 85% of 830,000,000 federal dollars spent on training.

Canadian programs have had a strong social policy orientation, as opposed to an economic rationale. Examination of the geographic distribution of federal programs showed that disproportionate amounts of training occurred in those parts of the country which exhibit relatively poor employment prospects. Although the new National Training Program aims to meet the demand for key skills, emphasis upon alleviating unemployment has hindered the development of those skills which are in greatest demand. To illustrate, there has been an institutional overemphasis upon clerical training; on the other hand, market conditions suggest the need for more technological skill training.

The Disadvantaged

Government-sponsored training in the U.S. has been characterized by anti-poverty programs aimed towards the disadvantaged. The assumptions underlying Comprehensive Employment and Training Act (CETA) and the Job Corps were based upon the premise that the success of the disadvantaged could be measurably improved through basic education and skill training.

An evaluation of the effectiveness of CETA programs concluded that significant employment and wage benefits occurred when participants obtained jobs requiring the skills learned in training. Unfortunately, this stated "conclusion" does not provide measures of employment success. The rest of the findings were somewhat more concrete: job stability appears to depend in part upon additional employer-provided training; only two of the eight types of training provided - medical and new careers training - resulted in markedly higher wages and also greater stability; and, training was more effective for those with high school diplomas than those without. Training did not appear to lessen sex-related obstacles.

An evaluation of the Job Corps program showed disappointing results. Training was contracted out to unions or vocational institutions, but since participants did not stay long enough even to approach journeyman competence, (which typically requires several years), no proficiency tests could be applied. Placement results appeared to be positive, but upon closer examination, were based upon only a portion of the participants. Therefore, the overall achievement of the program could not be assessed.

SHARED RESPONSIBILITY BETWEEN PRIVATE AND PUBLIC SECTORS

Some forms of training are regulated by the public sector, but the responsibility for training lies with the private sector. Apprenticeship is the most common example of this type of co-operative training. Legislation to ensure training activity on the part of the private sector is somewhat less common.

Apprenticeship

Apprenticeship is a form of training which is publicly regulated but privately financed. While apprenticeship has been a primary source of training young people in several European countries, notably Germany, its development in Canada has been marginal. To illustrate this difference, an OECD study found that in 1974, apprentices made up only 0.7% of the civilian population in Canada, as compared to 5.2% in Germany. Although the manufacturing base in Germany is somewhat larger than Canada's, this still appears to be a large difference.

This under-utilization of apprenticeship is somewhat surprising in light of the evidence. Quantitative studies of this type of training repeatedly show that it is cost-effective and that employers report satisfaction with program quality. One recent comparative study of training of industrial workers in Brazil, showed increased economic benefits for structured training provided by the National Industrial Apprenticeship Service than for academic education followed by on-the-job training. Economic advantages, in terms of rates of return to investment and improved employment and earnings prospects were the most significant results. Yet caution must be used in attempting to extrapolate these results, because Brazilian economic and social conditions are not directly comparable to Canada.

Another measure of the success of the apprenticeship model is a comparison of workers' mobility and career patterns on a national scale. In Germany, about two-thirds of those who finish primary school enter a vocational training stream in which schooling is combined with training in enterprises. France, on the other hand, has an educational system similar to Canada's, with a corresponding lack of utilization of apprenticeship

training. In Germany, workers are paid according to their level of vocational training, while in France, it is more according to their level of formal education. In Germany, mobility is easy and takes place on a fairly large scale. It is not necessary for manual workers to switch to non-manual jobs in order to earn a promotion or earn more money. In France, however, age or seniority determine promotion and an increase in salary.

Opinion that is based upon productivity and other economic indicators states that the apprenticeship training system in Germany results in a technically competent workforce. From government's point of view, it helps address the problem of youth unemployment. From industry's perspective, it builds a highly skilled workforce, especially in high technology industries, that is also motivated and responsible.

Adaptability, or the ability to integrate new knowledge and methods, is another claim for the apprenticeship system. The aim of a new system of training for mechanical engineering occupations, introduced in Czechoslovakia in 1976, is to prepare young people for a working environment characterized by rapid scientific and technological development. There it was determined that the most appropriate method would be an apprenticeship system combining general education subjects with vocational subjects, thereby linking theoretical education and specialized training. Unfortunately, effectiveness results are unavailable.

Government legislation does not play a significant role in apprenticeship systems. In Germany, the law does not require companies to maintain apprenticeship programs; trade associations however, apply an effective, if informal, discipline. In Canada, there has been little or no federal intervention and the result has been multiple regional diversities. There are 12 different apprenticeship systems, and many occupations are apprenticeable trades in some provinces and not in others. As recently reported by the Conference Board of Canada, at the end of 1980, apprenticeship programs were provided for 153 occupations; of these, only 11 were designated as apprenticeable trades in every jurisdiction. In addition, where certification does exist, the standards required may vary considerably.

In addition, there are various barriers to entry into an apprenticeship. Some are institutional in nature; educational requirements have been cited as being unnecessarily high. The quality of the on-the-job component has also been highlighted a problem. And, perhaps most importantly, there is the problem of employment. That is, the requirement of finding an employer willing to hire and train an apprentice for three or four years is another disadvantage. Employers are particularly reluctant to undertake lengthy and costly training during downturns in the business cycle. Thus, the number of training places provided depends partly upon the state of the economy. Even in Germany, where the apprenticeship system is firmly entrenched, changes in the economy and in industry have reduced the number of available openings.

Apprenticeship is a "closed" system to many potential participants. Many people, especially women and natives, have encountered and continue to encounter significant barriers to apprenticeship training. While Canadian statistics are not available, less than one percent of the more than 300,000 apprentices in the Unites States are female. In Britain, in 1974, less than half of all school-leavers got any long-term training, (ie. lasting several years), and only six percent of these were women.

LEGISLATION

Legislation for workers' continuing development has been enacted nationally in France. In 1971, in an attempt to meet changing occupational requirements and a demand for broader economic and social opportunities, the government passed a law for continuous training. The law required employers to submit a one percent payroll tax into a National Training Fund, they were then reimbursed for establishing employee training. All employees have a right to paid training leave. A recent study indicated that most of the participants were skilled workers, and there was some indication of improved promotion possibilities for participants. In general, workers expressed improved job satisfaction, although, not surprisingly, greatest satisfaction occurred where promotion followed. On a national basis, a 69% increase in workers' participation in firms' training occurred between 1972 and 1977. It was suggested that employer support was derived not only from increased ability to shape training to meet the organization's requirements, but to profit from the general increase in skills of a larger trained labour force.

Another example of how government has legislated training which was carried out by industry occurred in Japan. The historical manpower strategy there was to provide educable workers to sectors of the economy, rather than to educate workers for specific work. Specific training was provided by individual enterprises. Workers' skills were continuously built, in a piecemeal fashion, as required within the organization. These skills were then utilized in a highly flexible way almost solely within a single organization. It is important to note that this training system is very closely linked to cultural and social expectations, and is not readily transferable.

CONSIDERATIONS

It is apparent that the performance of training systems is closely tied not only to the educational system, labour market characteristics and the economy, but to social and cultural expectations as well.

The education provided by primary and secondary schools is closely linked to both the initial and future success of training. Industry's dissatisfaction with youth's basic skills rates a closer examination of what constitutes the preparation of young people for work. Yet, because schools and industries are entirely different institutions, with different goals, methods, work cultures, incentives and structures, it is unlikely that greater communication and co-ordination between the two will greatly affect the process in either.

Efforts to introduce new approaches to skill training, such as competency-based training, may overcome some of the barriers placed by one institution on the other. Competency-based training may become especially useful in retraining; this approach recognizes an individual's existing skills/competencies and does not assume a complete lack of knowledge. Therefore, the time required for skill training may be decreased and motivation increased.

The Manitoba New Careers program approach, based upon competency-based training, is a working example of this practical orientation towards training. While this approach has been the model for other jurisdictions, there are no direct comparisons of its success rate to the results of more conventional job training.

From the individual's point of view, the decision to invest in training depends upon several factors. These include the perceived costs and benefits, as well as the opportunities available for training. In addition, evidence indicates that sociological and psychological variables affect the training decision. Factors which are conducive to undertaking training are above average IQ, high parental social and economic states, and previous success in learning environments and present employment. Therefore, a self-selection process occurs in most training programs. This is not

inherently bad, but should be considered in program design, particularly for those programs directed towards the disadvantaged sectors of the population.

A lack of information about costs, benefits and opportunities is an obstacle for both the individual and the labour market in general. This is true for labour force entrants as well as participants.

One of the major problems lies in the inaccuracy of labour needs forecasting. Beyond that are obstacles such as the lack of industry-based, long-term training opportunities, as evidenced by the lack of apprenticeship spaces, and the questionable outlook for training or retraining of current labour force participants. And, the certification of trades is becoming increasingly more complex and varied.

This raises the question of the role of trade unions in occupational training. It is interesting that, in North America, the economic interests of union members are the primary focus of union activity. In most European countries, on the other hand, unions are more interested in social policy issues, such as the provision and availability of training opportunities within the trades.

Even if there were no problems in labour market forecasting, the technological changes and new developments in most skilled trades lead to another difficulty, the matter of time. The development of skill requirements takes time.

It is not realistic for institutions to consider involvement in training until these skill requirements are established. Moreover, to offset the costs of program development and operation, a certain degree of continuity and numbers of participants are necessary. Since training requirements are usually limited and specialized during the early years of a new technology, the workplace has, and will continue to be the logical place to begin such training.

CONCLUSION

There are no simple answers to the complex questions regarding occupational training. As outlined above, there have been many different approaches and varying degrees of success. It does seem clear however, that program objectives must be carefully stated and then analyzed to determine the most appropriate method of achieving those objectives. An approach that is appropriate in one instance, may not necessarily be appropriate with another clientele, working under different constraints.

Equally important is an evaluation of whether the program is meeting its objectives; the evidence is clear that a monitoring system built into the initial design of the program leads to the most conclusive results.

REFERENCES

Adnett, N.J. Manpower Training in the United Kingdom: Some aspects of the government role. International Journal of Social Economics, 1977, 4(1), 120-136.

Bolino, P. A century of human capital development by on-the-job training. International Journal of Social Economics, 1981, 8(7), 24-41.

Burns, J.L. Benefits of training the hard-to-employ. Harvard Business Review, May-June 1980, 141-151.

Canadian Association for Adult Education. From the Adult's Point of View. Toronto, 1982.

Carneval, A. and Goldstein, H. Employee training and its changing role and an analysis of new data (synopsis). Report on Education Research, July 6, 1983, 7.

Clark, K.B. and Summers, L.H. Unemployment reconsidered. Harvard Business Review, November-December 1980, 171-179.

Doeringer, P.B. (ed.) Workplace Perspectives on Education and Training, Boston, Martin Nijhoff, 1981.

CPR Human Resources Executive Program Basic Skills in the U.S. Work Force.

Ebel, K.H. The microelectronics training gap in the metal trades. International Labour Review, 1981, 120(6), 727-739.

Economic Council of Canada. In Short Supply: Jobs and Skills in the 1980's., 1982.

Gunderson, M. Training in Canada: Progress and Problems. International Journal of Social Economics, 1977, 4(1), 2-24.

Levine, S.B. and Kawada, H. Human Resources in Japanese Industrial Development, New Jersey, Princeton U. Press, 1980.

Limprecht, J.A. and Hayes, R.H. Germany's world-class manufacturers. Harvard Business Review, November-December 1982, 137-145.

Lusterman, S. Education in Industry, New York, the Conference Board, 1977.

Luttringer, J. and Pasquier, B. Paid educational leave in five European countries, International Labour Review, 1980, 119(4), 407-423.

Maynum, G. and Walsh, J. A Decade of Manpower Development and Training. Salt Lake City, Utah, Olympus, 1973.

Mirengoff, W., Rindler, L., Greenspan, H., Seablom, S. and Black, S. The New CETA: Effect on Public Service Employment Programs: Final Report, Washington, D.C. National Academy Press, 1980.

deMoura Castro, C. Vocational education and the training of industrial labour in Brazil. International Labour Review, 1979, 118(5), 617-629.

Nelvyn, P. Youth unemployment in industrialized market economy countries. International Labour Review, 1977, 116(1), 23-38.

Newton, K. Institutional versus on-the-job training: Some Canadian evidence. International Journal of Social Economics, 1976, 3(1), 24-38.

Pittman, B.O. and Showler, B. Government vocational training schemes in Great Britain. International Journal of Social Economics, 1974, 1(2), 184-196.

Sawhney, P.K., Jantzen, R.H. and Herrnstadt, I.L. The differential impact of CETA training. Industrial and Labour Relations Review, 1982, 35(2), 243-251.

Showler, B., Pittman, B.O. and Maguire, M.J. The effectiveness of British government skill centres: A case study. International Journal of Social Economics, 1978, 5(3), 160-168.

Sparrow, D.G. Employment training in France: Firm and worker experience. Monthly Labour Review, June 1980, 45-50.

Tesar, V. Training and incentives to training in the Czechoslovak engineering industry. International Labour Review, 1981, 120(2), 201-214.

Turvey, R. Training workers in backward sectors. International Labour Review, 1977, 116(2), 223-229.

vanGinnekin. W. Unemployment: Some trends, causes and policy implications. International Labour Review, 1981, 120(2), 165-181.

Weiermair, K. Economic determinants of training and the debate over training policy options in West Germany. International Journal of Social Economics, 1977, 4(1), 50-71.